

# **TERM AGREEMENT CATEGORIES OF SERVICE**

The following descriptions and minimum requirements for prequalification are to be used as a guide in determining areas of specialization/expertise for which firms may apply for prequalification.

Where the minimum qualification indicates Idaho licensing or registration, that individual must be a full-time employee who has acted in a leadership role on previous projects. Sub-consultants, individuals who have committed to work for the firm in the future or persons on retainers cannot be used to meet the minimum requirements for prequalification. The experience of the individuals must be relevant to the category of service, and the work must have been performed within the last three years.

Firms must also have support staff (engineers and/or technicians) with pertinent experience or training. The lack of relevant experience or training of the support staff may result in non-prequalification.

Firms must be specific in listing all experience which qualifies them for each category.

At the department's discretion, firms requesting prequalification may be required to submit additional documentation outlining their past experience and capabilities of current staff.

***Updated May 2016***

***Revised Categories of Service:***

***C – Surveying and Mapping***

**A. BRIDGES & STRUCTURES**

- A1. Bridge Design
- A2. Bridge Inspection\*
- A3. Hydraulics
- A4. Load Rating

**B. ROADWAY DESIGN**

- B1. General Roadway Design
- B2. Traffic Services
- B3. Pathways
- B4. Value Engineering

**C. SURVEY & MAPPING**

- C1a. Location Survey –  
Survey Data
- C1b. Location Survey –  
Survey Control\*
- C2. Construction Survey
- C3. Land Survey
- C4. *Reserved*
- C5a. Aerial Mapping –  
Photogrammetric Mapping
- C5b. Aerial Mapping –  
Surveying for Mapping
- C6. Subsurface Utility Engineering

**D. ARCHITECTURE**

- D1. Building Design
- D2. Building Inspection
- D3. Landscape Design
- D4. Interior Design
- D5. Mechanical Design
- D6. Electrical Design
- D7. Structural Design/Analysis

**E. ENVIRONMENTAL**

- E1. Report Documentation/Mgmt\*
- E2. Noise Studies\*
- E3. Air Quality Analysis
- E4. Wetlands
- E5. Water Quality Analysis
- E6. Biological Studies

- E7. Cultural Resources
  - E7a. Architectural History
  - E7b. Archaeology
- E8. Hazardous Materials/Waste
- E9. Visual Assessment

**F. TRANSPORTATION PLANNING**

- F1. Public Involvement
- F2. Public Relations
- F3. Public Opinion Research
- F4. Photography
- F5. Videography
- F6. Graphic Arts
- F7. Studies and Plans
- F8. GIS Mapping & Planning
- F9. Visualization Services

**G. CONSTRUCTION ENGINEERING & INSPECTION**

- G1. Project Management
- G2. Partnering
- G3. *Reserved*
- G4. Claim Analysis
- G5. Audit
- G6. Construction Inspection
- G7. Construction Materials Testing

**H. GEOTECHNICAL/MATERIALS****H1. PROJECT DEVELOPMENT**

- H1a. Materials Report Phase I
- H1b. Materials Report Phase II
- H1c. Materials Report Phase III
- H1d. Materials Report Phase IV\*
- H1e. Materials Report Phase V
- H1f. Pavement Rehabilitations
- H1g. Geotechnical Engineering\*

**H2. Subsurface Investigation****H3. Materials Laboratory Testing****H4. Non-Destructive Testing for Pavements****J. INTELLIGENT TRANSPORTATION SYSTEMS (ITS)**

- J1. ITS Planning
- J2. ITS Design
- J3. ITS Implementation/Deployment

**K. AIRPORTS**

- K1. Airport Planning
- K2. Airport Engineering

**L. CONSTRUCTION MANAGER/GENERAL CONTRACTOR (CMGC) SUPPORT SERVICES**

- L1. CMGC Support Services

**\* These categories require additional documentation or information. Review the following definitions of the categories of services for additional requirements.**

## **A. BRIDGES & STRUCTURES**

*Idaho professional engineering license required for categories A1 through A4.*

### **A1. Design**

This category of service consists of the comprehensive design of structures, including all detailing (except shop details), the determination of all plan quantities, plans and specifications. Structures shall be designed in accordance with current AASHTO LRFD (Load and Resistance Factor Design) Bridge Design Specifications and the procedures outlined in the ITD Bridge Design LRFD Manual, using the specified design loading. Services may include review and checking submitted shop drawings and designer related support during construction.

### **A2. Inspection**

This category of service consists of the routine inspection of bridges as described in 23 CFR 650.300 and the AASHTO Manual for Bridge Evaluation. In addition to performing bridge inspections, services include preparation of reports for each bridge in electronic format, inventorying new bridges and meeting with local highway officials to discuss maintenance needs of their bridges. Services may also include scheduling and performing supplemental inspections and performing in-depth bridge inspections.

*Key personnel are required to complete the 2-week course “Safety Inspection of In-Service Bridges” (FHWA-NHI-130055). Certifications showing satisfactory completion of the course by key personnel must be included with the Term Agreement Proposal.*

### **A3. Hydraulics**

This category of service includes preparation of hydraulic reports for bridges and culverts, design of storm drains, drainage and irrigation facilities, bridge scour evaluations, and evaluation of flood potential and hazards. The consultant shall follow the procedures outlined in the ITD Design Manual and as directed by the Hydraulics Engineer.

### **A4. Load Rating**

This category of service consists of the analysis of bridges to determine their live load carrying capacities in accordance with the AASHTO Manual for Bridge Evaluation. Inventory and operating ratings shall be calculated for the H and HS trucks and also for Idaho’s Type 3, 3S2, 3-3 and 121 kip trucks. Analysis methods may include any of the following: allowable stress, load factor, and load and resistance factor. Deliverables shall be in an electronic format as specified by ITD.

## **B. ROADWAY DESIGN**

*Idaho professional engineering license required for categories B1 through B3.*

### **B1. General Roadway Design**

This category of service includes:

Concept Study: Includes benefit/cost analyses on all alternatives utilizing surveying, mapping, topography, and the materials investigation. Design criteria and controls used in developing alternatives shall be in accordance with the procedures outlined in the ITD Design Manual. Completion of the Concept Report, including preliminary cost estimates, may also be included.

Project Development: Includes the design of any or all phases of a roadway in accordance with the procedures outlined in the ITD Design Manual, including outline specifications. The design shall conform to applicable standards.

Minor Hydraulics: This consists of the preparation of hydraulic reports for single span structures up to five (5) feet in span, and culverts up to five (5) feet in diameter. The consultant shall follow the procedures outlined in the ITD Design Manual and as directed by the Hydraulics Engineer. It also includes the design of roadway storm drains 24" and below in size.

Other areas of service: Includes clearances, permits, railroad encroachments and crossings, utilities, hearings, and location and/or design study report.

### **B2. Traffic Services**

This category of service includes:

Traffic Control, Signalization, Signing, and Lighting: Includes delineation, signing, illumination, construction traffic control plan, pavement markings, traffic signals, railroad crossings, and intersection layout and design. The design of all traffic control devices shall conform to the Manual on Uniform Traffic Control Devices for Streets and Highways as adopted by the State, and be performed in compliance with the ITD Traffic Manual, Standard Drawings, Standard Specifications for Highway Construction and Supplemental Specifications, Roadside Design Guide, the AASHTO Roadway Lighting Design Guide, and the ITD Design Manual. SignCAD sign design software, AGi32 lighting design software, and a turning movement software such as AutoTrac are required.

Capacity Analysis: Includes capacity calculations for freeways and other multi-lane roadways, two-lane roads and signalized as well as un-signalized intersections. Also includes analysis of passing needs and opportunities. For signalized intersections, includes preparation of signal timing and coordination plans, including developing and implementing optimized signal timing.

Transportation Impact Studies: Includes preparation of transportation impact studies or review of transportation impact studies prepared by others. Studies shall be prepared in accordance with the ITD Requirements for Transportation Impact Study.

### **B3. Pathways**

This category of service includes design of bicycle facilities and/or pedestrian pathways in accordance with ITD Design Manual and AASHTO standards. Areas of work include planning, concept preparation, design, estimates, specifications, construction support, and operation and maintenance cost considerations.

### **B4. Value Engineering**

This category of service includes constructability reviews, re-engineering workshops, facilitation and/or participation on value engineering teams as these services pertain to project development.

## C. SURVEY & MAPPING

*Idaho professional licensure required as identified. Deliverables shall be generated in native MicroStation format.*

### **C1a. Location Survey – Survey Data**

This category of service includes surveys required to furnish data for design of highways, bridges, buildings, drainage, and/or irrigation, and may require the following:

- 1) Hydraulics information including canals, streams, rivers, and drainage systems;
- 2) Locate established wetland areas;
- 3) GPS (Global Positioning System) survey services for mapping control, topographic surveys, or other surveys which may require this type of survey. May require knowledge and equipment necessary to utilize existing NGS control for project control; and/or
- 4) Topographic Maps. Maps for highway corridors or other improvements which furnish all natural or man-made features, in vertical and horizontal position electronically in native MicroStation format. These maps may require aerial mapping manuscripts and photos at specified standard accuracy or 3D laser scanning at specified standard accuracies and furnished electronically.

### **C1b. Location Survey – Survey Control**

*Must be licensed in the State of Idaho as a Professional Land Surveyor.*

This category of service includes surveys to determine and set project (horizontal/vertical) and centerline control, set monuments for existing highway alignments, establish landlines, stake right of way lines, and all other necessary non-boundary survey work described in IC 54-1202(11). It also includes performing geodetic surveys to reference and reset existing NGS and ITD horizontal control monuments and benchmarks.

*In Criteria 2 of the Term Agreement proposal (Experience and Qualifications), identify the name and title of the individual(s), and the date they completed the following courses:*

- ISPLS Course – “Benchmark Reset Workshop”*
- An equivalent course as approved by District Land Surveyor.*

## **C2. Construction Survey**

*Must be licensed in the State of Idaho as a Professional Land Surveyor or Professional Engineer and have experience in construction surveys acceptable to ITD.*

This category of service includes surveys to furnish all staking for control of vertical and horizontal positions of roadways and structures. This work requires the ability to work from plans and contracts to furnish the necessary surveys to maintain required accuracy for all phases of the project. This category of service includes reports in electronic fieldbooks compatible with MicroStation. This category of service also includes excavation and embankment quantities for roadways or buildings and quantity measurement for all linear, area, or volume items.

## **C3. Land Survey**

*Must be licensed in the State of Idaho as a Professional Land Surveyor.*

This category of service includes surveys to determine boundary lines, monument re-establishment and corner perpetuation. It also includes writing legal descriptions for property acquisition and production of Record of Surveys or Right-of-Way Plats. Survey documents to be signed, sealed, and recorded in the appropriate courthouse. Record surveys and all other documents as required by law.

## **C4. (Reserved)**

### **C5a. Aerial Mapping - Photogrammetric Mapping and Services**

This category of service includes photogrammetric mapping, stereoscopic plotting, digital terrain modeling (DTM), aerial LIDAR, digital orthographic photography, and aerotriangulation, bridging, and analytics. The mapping accuracy and scale of completed manuscripts will be specified for the type of project and required results. All mapping data shall be field audited. Hard Surface Data and Field Audit Data collected shall be incorporated into the map data.

### **C5b. Aerial Mapping - Surveying for Mapping**

This category of service includes surveying for aerial mapping, running levels, locating, placing, and surveying aerial photography pre-marks, and field audits of map data.

## **C6. Subsurface Utility Engineering (S.U.E.)**

This category of service includes establishing the location of existing underground utilities within prescribed boundaries on various projects. Work will include all necessary research, permitting, field investigations, test holes, plotting, design analysis, CADD file preparation and recommendations relative to impacts on existing or proposed utility systems. Work shall comply with all applicable utility damage prevention laws and includes coordination with utility inspectors as required. Traffic control shall conform to the Manual on Uniform Traffic Control Devices for Streets and Highways as adopted by the State.

## **D. ARCHITECTURE**

*Professional registration or certification required as identified.*

### **D1. Building Design**

*Idaho professional architect registration required.*

This category of service includes:

Preliminary Design: Prepare preliminary designs to indicate design concept, code requirements, materials incorporated and overall dimensioning. Indicate traffic flow, parking, walkways and vegetation areas on site plan. Prepare preliminary cost estimate.

Design Development: Prepare building cross sections; coordinate structural, mechanical, electrical and civil engineering concepts with a revised cost estimate. Prepare outline specification.

Construction Documents: Prepare plans and specifications for bid documents. Prepare final construction cost estimate.

Historic Restoration: Provide expertise in the restoration of sensitive historic buildings.

Bidding: Answer questions during bidding, conduct prebid conference and prepare addenda as required.

Construction Observation: Review shop submittals, make periodic site visits to observe construction and issue directives to the contractor. Review pay requests for compliance. Conduct final acceptance walk through and prepare a final punch-list. Review Operations and Maintenance Manuals.

### **D2. Building Inspection**

*Idaho or ICBO certification for building inspection required.*

This category of service includes attendance at preconstruction meeting and reviewing plans, specifications and shop submittals. It also includes periodic inspections during construction to assure materials are installed in accordance with codes and the construction plans and specifications. Note discrepancies in construction and inform the architect and owner.



### **D3. Landscape Design**

*Idaho professional landscape architect registration required.*

This category of service includes:

Preliminary Design: Prepare site development design to indicate vegetation, concepts, site drainage, irrigation pattern, and site stabilization solutions.

Contract Documents: Prepare landscape site plans indicating locations and types of vegetation, ground cover, irrigation systems, drainage and slope stabilization. Prepare specs for construction documents.

### **D4. Interior Design**

This category of service includes preparing space plans indicating layout of modular work stations or furniture, assisting in planning modular work station components and color coordination, and preparing specifications for bid documents.

### **D5. Mechanical Design**

*Idaho professional engineer/mechanical engineer registration required.*

This category of service includes:

Preliminary Design: Prepare preliminary designs to indicate design concept, code requirements, materials proposed.

Design Development: Coordinate with architectural, electrical, structural and civil engineering plans. Develop outline specifications and cost estimate.

Construction Documents: Prepare plans and specifications for bid documents. Prepare final construction cost estimate.

Bidding: Answer questions during bidding and prepare addenda as may be required.

Construction Observation: Review shop drawing, submittals and make periodic site visits to observe construction and issue directives to the contractor. Review Operations and Maintenance Manuals.

### **D6. Electrical Design**

*Idaho professional engineer/electrical engineer registration required.*

This category of service includes:

Preliminary Design: Prepare preliminary designs to indicate design concept, code requirements, materials proposed.

Design Development: Coordinate with architectural, structural, mechanical and civil engineering plans. Develop outline specifications and cost estimate.

Construction Documents: Prepare plans and specifications for bid documents. Prepare final construction cost estimate.

Bidding: Answer questions during bidding and prepare addenda as may be required.

Construction Observation: Review shop drawing, submittals and make periodic site visits to observe construction and issue directives to the contractor. Review Operations and Maintenance Manuals.

#### **D7. Structural Design/Analysis**

*Idaho professional engineer/structural engineer registration required.*

This category of service includes:

Preliminary Design: Prepare preliminary designs to indicate design concept, code requirements, materials proposed.

Design Development: Coordinate with architectural, electrical, mechanical and civil engineering plans. Develop outline specifications and cost estimate.

Construction Documents: Prepare plans and specifications for bid documents. Prepare final construction cost estimate.

Bidding: Answer questions during bidding and prepare addendum as may be required.

Construction Observation: Review shop drawing, submittals and make periodic site visits to observe construction and issue directives to the contractor.

Analysis: Analyze structural systems in existing facilities for integrity or modifications for remodeling, restoration or additions.

## **E. ENVIRONMENTAL**

*Categories E1 through E9 should be performed in accordance with procedures outlined in the ITD Design Manual and the ITD Environmental Process Manual. The Consultant should be prepared to furnish raw data (i.e. GPS/GIS data) and background materials (i.e. records review information) to ITD upon request for categories of service E2 through E9.*

### **E1. Environmental Report Documentation and Management**

This category of service includes management of the Administrative Record and concise environmental documentation organized in an approved format. Environmental documentation may include Environmental Impact Statements, Records of Decision, Categorical Exclusions, Environmental Assessments, Findings of No Significant Impacts, and Section 4(f) documentation. Both paper and electronic copies of documentation may be required. Internet pages, video and/or photo documentation, and GIS data may also be required.

*Note: To prequalify for category of service E1, the Consultant must provide the best example of one of the following finished documents: an Environmental Impact Statement, an Environmental Assessment, or a Documented Categorical Exclusion. The report will not count against the page limitation set in the Request for Qualifications.*

### **E2. Noise Studies**

This category of service includes highway traffic noise related environmental services for Type I projects (new location, substantial alignment change, or addition of a through-traffic lane) performed in accordance with procedures set forth in 23 CFR 772 “Procedures for Abatement of Highway Traffic Noise and Construction Noise”; 2010 USDOT/FHWA guidance entitled “Highway Traffic Noise Analysis and Abatement Policy and Guidance”; and the ITD Environmental Process Manual Section 1300.

Compliance with the listed procedures may include conducting surveys and analysis, reporting findings, and/or preparing information for local jurisdictions disclosing future traffic noise levels and suggest land use planning and zoning efforts to minimize future noise impacts.

All documents shall be prepared under the responsible oversight of a trained acoustic analyst.

*In Criteria 2 of the Term Agreement proposal (Experience and Qualifications), identify the name and title of the individual(s), and the date they completed one or more of the following courses:*

- *FHWA Course – The Fundamentals and Abatement of Highway Traffic Noise”*
- *NHI Course 142051 Highway Traffic Noise*
- *An equivalent course as approved by ITD Environmental Section Manager.*

### **E3. Air Quality Analysis**

This category of service includes determination of the level of air quality analysis required through use of ITD screening criteria. It also includes preparation of project level air quality analysis when required.

#### **E4. Wetlands**

This category of service includes wetlands identification, delineation, function and values assessment (MDT Montana Wetland Assessment method or other ITD/Corps of Engineers approved method), conceptual wetland mitigation plans, wetland mitigation design, wetland mitigation monitoring, section 404 permitting, and section 401 water quality certifications. GIS/GPS survey techniques and mapping may be required.

#### **E5. Water Quality Analysis, Hydrology, Stormwater and NPDES**

This category of service includes water quality, storm water, and municipal stormwater facility analyses; identification of Best Management Practices; and preparation of hydrologic studies, NPDES permits, Stormwater Pollution Prevention plans, and erosion and sediment control plans. This category also includes stormwater (NPDES) inspection of construction projects.

#### **E6. Biological Studies**

This category of service includes Endangered Species Act compliance, including preparation of Biological Evaluations or Assessments, monitoring plans, and mitigation plans. Fish passage and wildlife crossing analysis and design, biological studies and stream restoration may also be required.

#### **E7. CULTURAL RESOURCES**

**(E7 is not a category by itself. You need to apply for E7a and/or E7b, which are two separate categories.)**

This category of service includes cultural resources evaluation, research, and documentation performed as needed by either an architectural historian or an archaeologist or in accordance with the requirements listed below.

Procedures outlined in the ITD Environmental Manual include conducting archaeological and historical evaluations, including survey and report production, determination of site eligibility and project effect, and preparation of Section 106 and Section 4(f) documentation (if 4(f) is required). The final product may also include the preparation of a Determination of Adverse Effect and Memorandum of Agreement as prescribed by, and in consultation with, ITD HQ Cultural Resources Staff. GIS/GPS survey techniques and mapping may be required.

When working on an ITD project that includes historic architecture and archaeological resources, work must be completed by an individual or individuals who meet both resource type requirements.

##### **E7a. Architectural History**

Consultants performing the inventory, documentation, and evaluation of buildings, sites, and properties for the purpose of compliance with federal regulations, such as Section 106 of the National Historic Preservation Act (NHPA) and Section 4(f) of the DOT Act of 1966 shall meet the following criteria:

Architectural Historians must meet the Secretary of the Interior's Standards for Architectural History which outline the following stipulations:

The minimum professional qualifications in architectural history are a graduate degree in architectural history, art history, historic preservation, or closely related field, with coursework in American architectural history, or a bachelor's degree in architectural history, art history, historic preservation or closely related field plus one of the following:

1. At least two years of full-time experience in research, writing, or teaching in American architectural history or restoration architecture with an academic institution, historical organization or agency, museum, or other professional institution; or
2. Substantial contribution through research and publication to the body of scholarly knowledge in the field of American architectural history.

Architectural Historians must also have demonstrated proficiency and experience in historic architectural inventory and documentation (and the ability to complete the required paperwork such as the Idaho Historic Sites Inventory (IHSI) forms, National Register of Historic Places nomination forms, and the Archaeological and Historic Survey Report (AHSR)) in accordance with Idaho Transportation Department and Idaho State Historic Preservation Office standards. If the consultant wants to complete Section 4(f) for ITD, they must have demonstrated proficiency and experience in completing Section 4(f) evaluations.

Consultants must have proficiency and experience in the following areas:

1. Inventory and documentation with reconnaissance-level and intensive-level surveys.
2. A knowledge of survey methodology and the available resources (such as experience in utilizing county recorder and assessor records, county and/or state historical society records, etc.) to undertake such surveys.
3. Understanding of National Register of Historic Places eligibility criteria.

## **E7b. Archaeology**

Consultants performing the inventory, documentation, and evaluation of archaeological sites for the purpose of compliance with federal regulations, such as Section 106 of the National Historic Preservation Act (NHPA) and Section 4(f) of the DOT Act of 1966 shall meet the following criteria: Archaeologists must meet the Secretary of the Interior's Standards for Archaeology which outline the following stipulations:

The minimum professional qualifications in archaeology are a graduate degree in archaeology, anthropology, or closely related field plus:

1. At least one year of full-time professional experience or equivalent specialized training in archaeological research, administration or management;
2. At least four months of supervised field and analytic experience in general North American archaeology, and
3. Demonstrated ability to carry research to completion.

In addition to these minimum qualifications, a professional in prehistoric archaeology shall have at least one year of full-time professional experience at a supervisory level in the study of archaeological resources of the prehistoric period. A professional in historic archaeology shall have at least one year of full-time professional experience at a supervisory level in the study of archaeological resources of the historic period.

Archaeologists must also have demonstrated proficiency and experience in archaeological inventory and documentation (and the ability to complete the required paperwork such as the Archaeological Survey of Idaho (ASI) Site Inventory Form and the Archaeological and Historic Survey Report (AHSR)) in accordance with Idaho Transportation Department and Idaho State Historic Preservation Office standards. If the consultant wants to complete Section 4(f) for ITD, they must have demonstrated proficiency and experience in completing Section 4(f) evaluations.

Consultants must have proficiency and experience in the following areas:

1. Inventory and documentation with reconnaissance-level and intensive-level surveys.
2. Knowledge of archaeological survey methodology and the available resources to undertake such surveys.
3. Understanding of National Register of Historic Places eligibility criteria.

#### **E8. Hazardous Materials/Waste**

This category of service includes site investigation assessments (all phases) and remediation for hazardous materials/waste, underground storage tanks, asbestos, lead paint, PCB's, and other potentially contaminated sites or structures. Site investigation may include records and field reviews, as identified in the Environmental Process Manual. Investigative capabilities should include nonintrusive methods as well as intrusive methods. This category of service also includes sampling of soil, water, structural materials, and unknowns for analysis to determine contamination levels or hazardous waste status in compliance with EPA and DEQ requirements.

#### **E9. Visual Assessment**

This category of service includes visual inventory and visual analysis to support planning models. Visual simulations may be required.

## **F. TRANSPORTATION PLANNING**

### **F1. Public Involvement**

This category of service includes developing models, strategies and procedures for effective public involvement in regard to the department's projects, programs and plans.

### **F2. Public Relations**

This category of service includes providing expert assistance/advice in the art and science of public relations and communication strategies with the public and media.

### **F3. Public Opinion Research**

This category of service includes public opinion polling/surveying on transportation issues.

### **F4. Photography**

This category of service includes professional photography for department projects, publications, and promotions.

### **F5. Videography**

This category of service includes video production (including editing), 3D animation, and digital video effects for department projects and promotions.

### **F6. Graphic Arts**

This category of service includes graphic design services including conceptual support; design of logos, brochures and other publications; and technical production assistance.

### **F7. Studies and Plans**

This category of service includes:

Highway Needs Study: Road inventory & data collection, economic analysis, highway finance, funding shortfalls, cost responsibilities & revenue distribution, reporting and presentations.

Scenic Byway Corridor Management Plans: Work with local government officials and interest groups to develop plans to protect scenic corridors while allowing for growth and economic development, publish plans, and make presentations.

Corridor Planning: Develop long-range (20 year) plans for state highway corridors in accordance with the *Idaho Corridor Planning Guidebook*. The plans combine the technical elements of policy planning and traffic engineering with local concerns, needs and land uses.

Highway Modal Plan: Gather data, establish and manipulate databases, run models, prepare maps and gather public input on all features of the highway system, present and future.

Strategic Planning and Economic Forecasting: Use principles of strategic planning in the public sector. Requires a background in public sector financing/budgeting/ forecasting.

Idaho Transportation Plan: Employ knowledge of federal requirements and facilitating long-range (20 years+) transportation planning efforts. Make presentations/facilitate meetings and publish reports.

Rail and Intermodal Planning: Statewide and project-specific rail planning, intermodal transportation planning and intermodal facility feasibility studies. Make presentations, facilitate meetings and publish reports.

Interstate Point of Access Studies: Utilize knowledge of federal requirements and experience in conducting access study. Make presentations, facilitate meetings and publish reports.

Bicycle/Pedestrian Plan: Employ knowledge of federal requirements and experience in assembling data and producing a statewide plan. Make presentations, facilitate meetings and publish reports.

Performance Management: Identify ways to integrate transportation features with an agency's policy, goals and objectives using innovative investment strategies.

Travel Demand Modeling: Project the results of proposed transportation improvements and civic infrastructure growth using the four-step process: trip generation, distribution, mode choice, and assignment.

## **F8. GIS Mapping, Database Design and Application Development-**

This category of service includes employment of the knowledge, skills and abilities of GIS/CAD software. Required skills range from the ability to generate digital and hardcopy map products to spatial analysis of transportation and environmental conditions using GIS/CAD tools. This category may also include development of specialized databases, providing expertise in the integration of existing spatial and tabular data stores, and providing guidance to ITD employees in the development of their GIS capabilities.

## **F9. Visualization Services**

This category of service includes 2D, 3D, and 4D Services. 2D includes graphics for concept development and public information. 3D includes terrain modeling and photo simulations. 4D supports interactive, real-time applications.



## **G. CONSTRUCTION ENGINEERING & INSPECTION**

### **G1. Project Management**

*A Professional Engineering License is preferred but not required for this category of service.*

This category of service includes the management of highway construction projects that employ the use of Federal-aid funding. It includes:

- 1) Constructability reviews;
- 2) Pre-bid conferences (includes the ability to interface with contractors during the bidding phase of the project);
- 3) Pre-construction conferences;
- 4) Day-to-day administration of highway construction projects, including the management of inspection staff and project documentation; and
- 5) Presentation of the project at completion to the Department for final review and acceptance, and certification that all work has been done in accordance with the policies and procedures of the ITD and FHWA.

### **G2. Partnering**

This category of service includes the participation in the partnering process and a demonstrated commitment in the use of this process for disputes resolution.

### **G3. (Reserved)**

### **G4. Claim Analysis**

*A Professional Engineering license is preferable but not required for this category of service. Consultant need not be a licensed attorney.*

This category of service includes the analysis of construction claims including entitlement, quantum and schedule analysis. Broad experience in engineering and construction and a thorough working knowledge in the area of construction contract law are required.

### **G5. Audit**

*A CPA license is required for this category of service.*

This category of service includes auditing construction claims for the purpose of cost verification. Demonstrated knowledge and experience regarding federal procurement regulations and Federal Acquisition Cost Principles, 48 CFR Part 31 is required.

### **G6. Construction Inspection**

This category of service includes inspection of construction projects. Inspector qualifications as outlined in Section 114 of the Contract Administration Manual, and experience in the day-to-day inspection common to heavy highway construction are required for this category of service.

#### **G7. Construction Materials Testing**

This category of service includes materials testing (aggregate, concrete, asphalt, etc.) at construction projects. Sampler/Tester (WAQTC) qualifications as outlined in Section 114 of the Contract Administration Manual, and experience in the field sampling and testing common to heavy highway construction are required for this category of service. All equipment used in the testing process will meet the requirements of ITD's Laboratory Qualification Program

## **H. GEOTECHNICAL/MATERIALS**

*For service categories H1, H3, and H4, a professional engineer licensed in the State of Idaho will review, approve, and seal the final report(s) submitted.*

*For service category H2, a professional engineer or professional geologist licensed in the State of Idaho will be in responsible charge, with the final report(s) submitted being sealed by either the professional geologist or the professional engineer.*

### **H1. Project Development**

This category of service includes preparing Materials Phase Reports as outlined in the ITD Design and Materials Manuals. Other possible areas of service include plan sheet and proposal preparation.

#### **H1a. Materials Report - Phase I**

Produce Materials Phase I, Geology Reconnaissance reports.

#### **H1b. Materials Report Phase II**

Produce Materials Phase II, Soil reports.

#### **H1c. Materials Report Phase III**

Produce Materials Phase III, Pavement reports.

#### **H1d. Materials Report Phase IV**

Produce Materials Phase IV, Foundation Investigation reports for structures.

*Addition Information Required for Phase IV:*

- 1. List projects and describe in detail what the consultant has done regarding Materials Phase IV or similar reports preparation for these project types. Emphasize experience in bridge foundations analysis and design following the LRFD design method, including shallow foundations and deep foundation such as pile foundations and drilled shaft foundations. Describe experience designing Mechanically Stabilized Earth (MSE) walls, including performing global stability analyses for MSE walls around abutments, etc.*
- 2. List technical resources available for preparing Materials Phase IV or similar reports, including geotechnical software for foundation designs, reference manuals, specifications, text books, etc.*

### **H1e. Materials Report Phase V**

Produce Materials Phase V, Special Provision report.

### **H1f. Pavement Rehabilitations**

Produce special reports on pavement rehabilitation projects. Analyze results from non-destructive testing and prepare engineering report of the results; provide asphalt and Portland cement concrete designs.

### **H1g. Geotechnical Engineering**

Produce special geotechnical reports, such as reports on land slides, cut slope stability, corrections for settlement, liquefaction problems, etc.

*Addition Information Required for Geotechnical Engineering:*

- 1. List projects and describe in detail experience investigating and designing remediation for landslides, rock falls, mud flows, etc. List all technical resources available for these types of work, such as computer programs, reference manuals, text books, etc.*
- 2. List projects and describe in detail experience designing cut slopes in soil or rock, steepened reinforced slopes, high embankments (over 20 feet) over soft ground, etc. List all technical resources available for performing these tasks.*
- 3. List projects and describe in detail experience designing retaining walls and temporary supports, including Mechanically Stabilized Earth (MSE) walls, Soil Nail walls, Soldier Pile walls, etc. in accordance with the LRFD design method. List all technical resources available for performing these designs.*
- 4. List projects and describe in detail experience designing ground improvement methods to improve soft, weak soils to counter problems such as liquefaction, settlement, etc. List all technical resources available for performing these tasks.*
- 5. List projects and describe experience developing pile driving criteria using Wave Equation analysis, and list all technical resources available for performing this task. Describe experience analyzing field test results such as Pile Load tests, Pile Dynamic test, Cross Hole Sonic (CSL) tests, etc.*
- 6. Any other experience in geotechnical engineering work that is not shown above.*

## **H2. Subsurface Investigation**

This service category includes subsurface investigations, including drilling test holes and digging test pits. Obtain disturbed and undisturbed soil samples and rock cores. Perform field tests such as the Standard Penetration Test (SPT), Cone Penetration Test (CPT), Rock Quality Designation (RQD), and the Vane Shear Test. Install and monitor geotechnical monitoring instrumentations, such as piezometers and inclinometers. It also includes the professional engineer or professional geologist be in responsible charge during subsurface investigations, and bore holes and test pit logging, keeping field records, directing investigation activities, and analyzing data from subsurface investigations and field and lab test results.

## **H3. Materials Laboratory Testing**

This category of service includes various AASHTO, ASTM, and ITD standard tests on materials such as concrete, hot mix asphalt, aggregate, paint, soils, rock, steel, etc. Must be AASHTO accredited or qualified through the ITD Laboratory Qualification Program including Sampler / Tester qualifications.

## **H4. Non-Destructive Testing for Pavements**

This category of service includes non-destructive testing of pavements and structures. Tests may include Ground Penetrating Radar, Falling Weight Deflectometer, Locked Wheel Skid test, Impact Echo, Profiling, Pavement roughness, etc. Provide test records, analysis of test results, recommendations, etc.

## **J. INTELLIGENT TRANSPORTATION SYSTEMS**

### **J1. Planning**

This category of service includes planning and guidance for future implementation and deployment of ITS technologies in accordance to the National ITS Architecture and NTCIP Standards as well as preliminary cost analysis.

### **J2. Design**

This category of service includes design any or all phases of implementation and deployment of ITS technologies in accordance with the National ITS Architecture, NTCIP Standards, the ITD Design Manual, the Manual on Uniform Traffic Control Devices as adopted by the State, and the ITD Traffic Manual.

### **J3. Implementation/ Deployment**

This category of services includes guidance for implementation and deployment of ITS technologies in accordance to the National ITS Architecture, NTCIP Standards, the ITD Design Manual, the Manual on Uniform Traffic Control Devices as adopted by the State, and the ITD Traffic Manual.

## **K. AIRPORTS**

*Idaho Professional Registration or Certification as required. Requirements are essentially the same as for surface transportation facilities.*

### **K1. Airport Planning**

This category of service requires training and experience in community planning and specific training and experience in airport layout, design, maintenance, and operations as detailed in Federal Aviation Administration (FAA) requirements and Idaho Division of Aeronautics recommended guidance. Typical work elements include airport planning services, layout drawing preparation, narrative report preparation, capital improvement planning, compatible land use planning, facility evaluation, and facility layout relative to design aircraft standards.

### **K2. Airport Engineering**

This category of service requires training and experience in civil engineering and specific training and experience in airport design, maintenance, and operations as detailed in Federal Aviation Administration (FAA) requirements and Idaho Division of Aeronautics recommended guidance. Typical work elements include capital improvement planning, facility evaluation and design, engineering studies and analysis such as geotechnical, pavement design and condition analysis, drainage, and facility layout relative to design aircraft standards, airport visual and navigational aid design and installation, and bidding, construction, and inspection services.

## **L. CMGC SUPPORT SERVICES**

### **L1. Construction Manager/General Contractor (CMGC) Support Services**

This category of service includes performing CMGC support services either before construction or during construction. Services include:

- 1) Risk assessment and management
- 2) Constructability reviews and support
- 3) Independent cost estimates and/or validating estimates
- 4) Schedule development and/or analysis
- 5) Contracting and construction phasing strategies
- 6) Market analysis

The consultant performing CMGC support services shall have a minimum of 10 years of direct experience for each listed task. The consultant providing these services must provide their detailed approach to how they would perform the specific service tasks and list project specific examples for each task that includes transportation or highway specific experience.